

WSU Cowlitz County Master Gardeners
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9 a.m. - 12:30 p.m.
<https://www.cowlitzcomg.com/>



**ADVANCED
COMPOSTING**

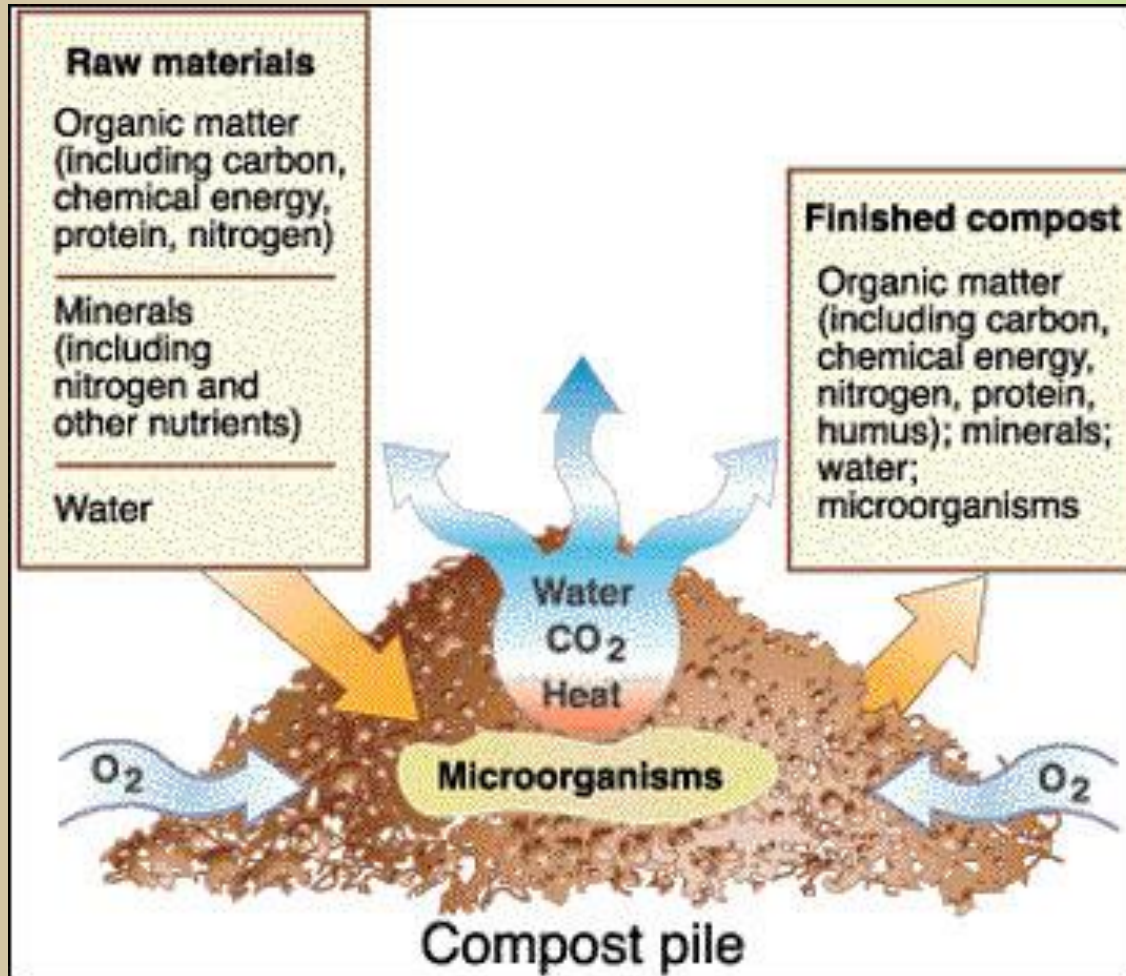
Is this your compost pile?



Turn it into this!



Advanced Composting Topics:



- Why Compost?
- What is Compost?
- Facts.
- Elements.
- Mix ratio.
- Beware.
- Organism Levels.
- Temperature.
- Hot Composting.
- Cold Composting.
- Vermicomposting.
- Decomposition.
- Common Questions.
- Fertilization.
- Manures.
- Green Cone.
- Bokashi.

Why Compost?

- Reduce the amount of household garbage you generate by 25% or more - that's less tax dollars spent on collection and disposal.
- The added bonus is that the compost you generate will make your garden and lawn healthier and less dependent on chemicals, fertilizers and watering.
- By composting and recycling, you can reduce the amount of garbage you generate by up to 80%. It quickly becomes routine and makes a big difference.
- Composting reduces methane (caused by anaerobic decomposition), carbon footprint and landfill waste.

What Is Compost?

The natural process of decomposition & recycling of organic material into a humus-rich soil amendment.

- Natural cycle of growth & decay.
- Similar to organic matter in soil.
- Holds water and nutrients in soil.
- Makes soil more porous & easy to work.
 - Soil Amendment.
 - Not HIGH in nutrients.
- Makes nutrients more available.



Composting Facts:

One Person's Trash is...

...another's black gold.

Every year, U.S. landfills and trash incinerators receive **167 MILLION TONS** of garbage.

> 50% of typical municipal garbage set out at the curb is compostable.

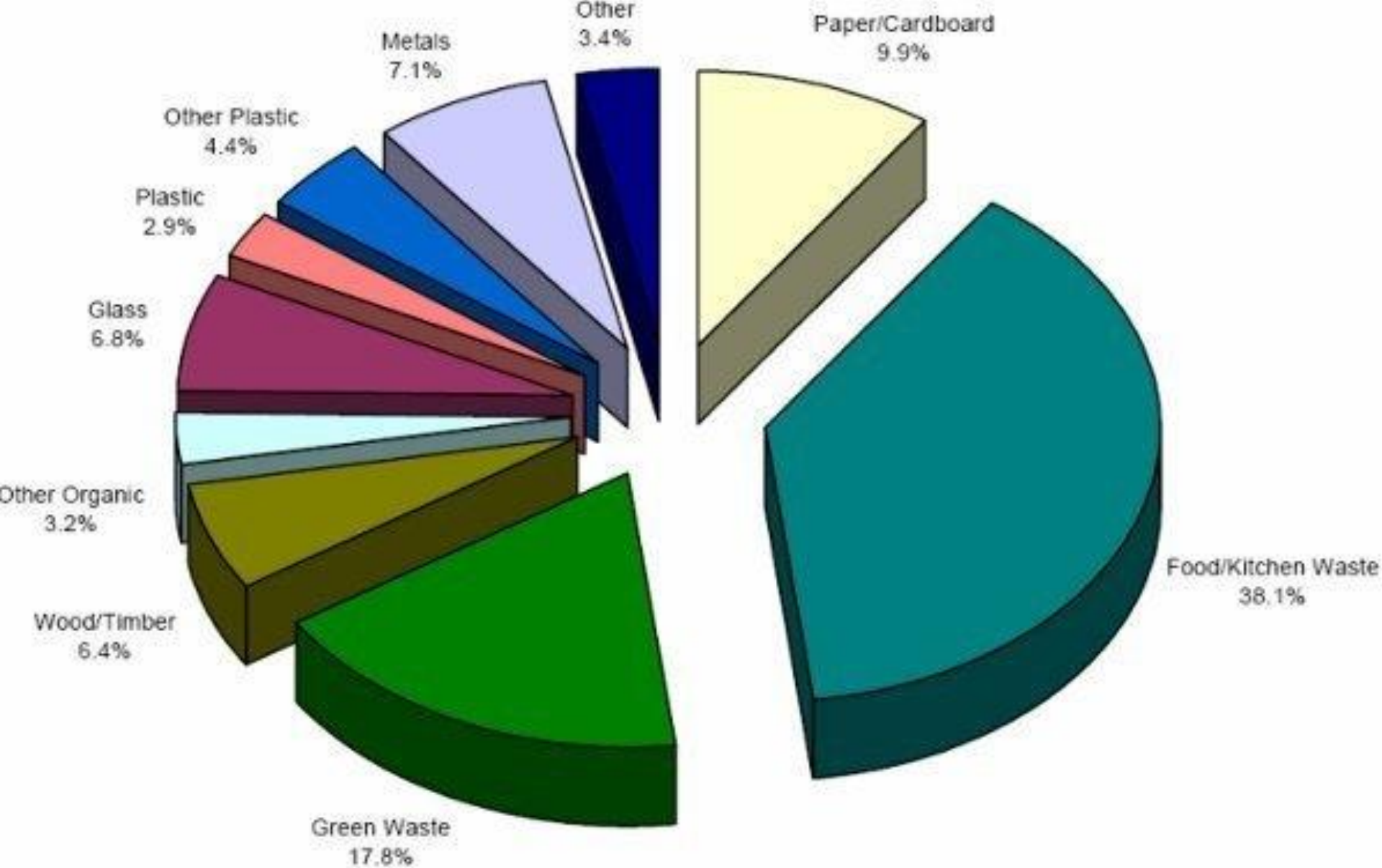
Landfills and incinerators are dangerous.
Every bag thrown out contributes to:



Pollution of surrounding
soil, air, and water



21% is food scraps alone



Clark County produced 321,327 tons, Cowlitz County produced 130,308 tons and Lewis County produced 68,958 tons of waste in 2016.



Facts:



- 55.9% of household trash is yard clippings & kitchen scraps. Municipal Solid Waste (MSW).
- Organic materials should not go to landfill because they react with other materials & produce a toxic leachate which can contaminate streams or groundwater.
- Compost benefits soil structure, texture, aeration & increases water-holding capacity.



Facts:

- Compost loosens clay soils & helps sandy soils retain water.
- Adding compost to soils aids in erosion control, promotes soil fertility & stimulates healthy root development.
- Under optimum conditions, thermophilic composting with frequent mixing or turning can produce useable compost within a month or two.
- A worm bin requires three to six months to turn food scraps to compost
- An unmanaged leaf pile may take more than a year to break down.

Compost Elements:

- Water.
- Oxygen.
- Heat.
- Mix ratio: **Brown material:** (Carbon) (leaves, straw, woody material, paper).
Green material: (Nitrogen) (fresh grass, food scraps, manures).
- **Macroorganisms:** (earthworms, insects).
- **Microorganisms:** (bacteria, fungi, microbes).
- **Time:** Can be done as quickly as 1 month or as long as 12 - 24 months.



Carbon & Nitrogen (30:1 Ratio):

Brown or Carbon:

- Dead leaves.
- Sawdust.
- Shredded paper.
- Wood chips.
- Hay or straw.
- Egg shells.
- Fireplace ash.
- Cardboard.
- Twigs.

Green or Nitrogen:

- Grass clippings.
- Salad waste & trimmings.
- Manures from herbivorous.
- Coffee & tea grounds.
- Healthy plants (not diseased).
- Fertilizer.
- Hair & fur.
- Bread & grains.
- Seaweed & kelp.

The Perfect Recipe:

By having a balance of wet, green materials & dry brown materials, compost piles generate high temperatures & slowly simmer & create compost.

- Using only or too much browns will slow down the process because the pile will not generate heat.
- Using only or too much wet green will cause odors. Odors also occur from lack of oxygen and too little browns.
- Keeping your pile moist but not soaked will make a friendly & safe environment for the microorganisms (bacteria & fungi) which assist in the process of decomposition.



The diagram shows a cross-section of a compost pile with alternating layers of brown and green materials. From top to bottom, the layers are: Browns (2"-3"), Greens (2"-3"), Browns (2"-3"), Greens (2"-3"), Browns (2"-3"), Greens (2"-3"), Browns (2"-3"), Greens (2"-3"), Browns (2"-3"), Greens (2"-3"), Browns (2"-3"), and Greens (2"-3"). To the right of the pile, a vertical dashed line indicates a height of 3'-4' Tall.

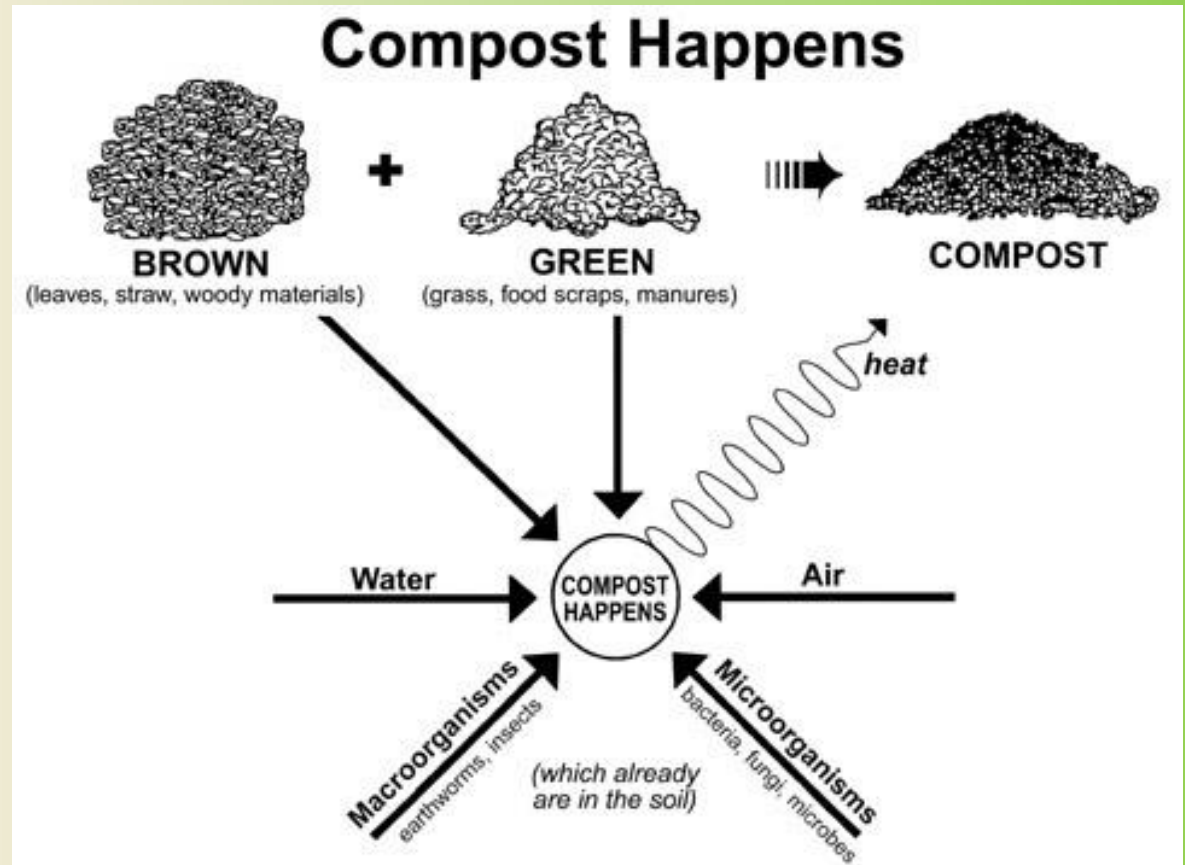
GREEN (Nitrogen-rich):	BROWN (Carbon-rich):
Coffee Grounds & Filters	Twigs & Wood Chips
Tea Bags	Wood Chips
Fresh Grass Clippings	Dried Leaves
Fresh Weeds	Cardboard
Wet Leaves	Sawdust
Garden Clippings	Hair
Fruits	Dryer Lint
Vegetables	Shredded Newspaper
Seaweed	Straw / Hay
Eggshells	Nut Shells
	Fireplace or BBQ Ashes

WHAT NOT TO ADD:

- Fats, Grease, Butter
- Non-foods (not including paper towel and newspaper)
- Meat & fish (these can be composted, but will likely attract animals and also have a lot of pathogens, so adding these is up to you)
- Dog, Cat, or Human Waste (see section on Animal Waste below)
- Peanut Butter
- Dairy Products
- Seeds, or Weeds with Seeds

Mix ratio:

- Green:
Approx. 1 part.
- Brown:
Approx. 2 - 4 parts.
- Good balance.



Ingredients to Beware of!

- **Cedar Chips:** Cedar is the preferred wood for outdoor construction because it resists decay. In compost, you want decay, so cedar is a poor material for composting but, makes a great mulch due to its slow decomposition and it's aroma.
- **Treated Wood Chips:** Lumber treated with a fungicide and insecticide mix made of copper, chromium and arsenic was a common choice. As of December 31, 2003, however, an agreement between the U.S. Environmental Protection Agency and lumber treatment facilities banned the sale of treated wood for residential use.
- **Wood Ash:** Wood ash can offset the acidic condition of a compost pile since it is more alkaline. Don't use direct wood ash on acid-loving plants like rhododendrons, azaleas & blueberries. A great source of lime, potassium and trace elements. ½ - 1 pound per plant or bush or 5 - 10 pounds per 100 sq ft. per year. Raising the soils pH above the 6.5 - 7 levels can cause iron deficiencies to the plants.
- **Citrus Peels:** Citrus peelings have gotten a bad rap in composting due in part to the fact that it can take a long time for the peels to break down unless you cut them into small pieces. Also the fact that several chemicals in citrus peels are used in organic pesticides. While they are effective as pesticides, these chemical oils break down rapidly and will evaporate long before you place your compost on your garden. Composted citrus peels pose no threat to the friendly insects!
- **Black Walnut Leaves:** Another bad rap due to the trees produce a substance called juglone. The bottom line is they can be used for composting due to the fact that the juglone is minimal in leaves and dissipates within 2 - 4 weeks in leaves by air, water and bacteria.

Herbicides:

- Can carry over to harm plants.
- Lawn clippings (Weed & Feed).
- Hold one year.
- Use in non-sensitive areas.



Levels:

The food web decomposition process is divided into three levels:

- Level One (primary consumers) is comprised of the organisms that shred organic matter and the microscopic organisms that eat the shredded organic residues.
- Level Two (secondary consumers) is comprised of the organisms that eat level one organisms.
- Level Three (tertiary consumers) is comprised of the organisms that eat level two organisms.

Food Web of the Compost Pile:

1st Level:

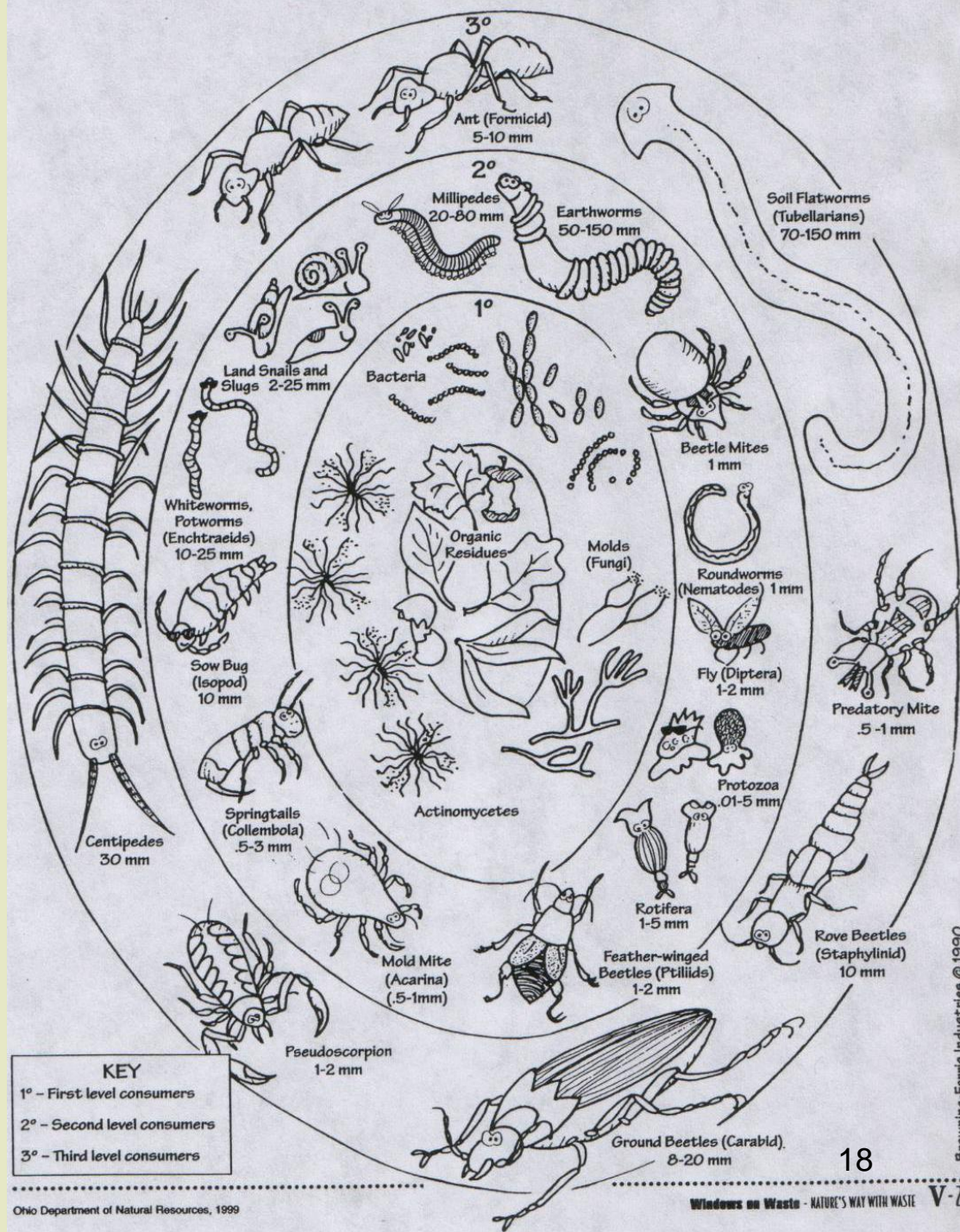
- Bacteria.
- Fungi.
- Protozoa.

2nd Level:

- Worms.
- Mites.

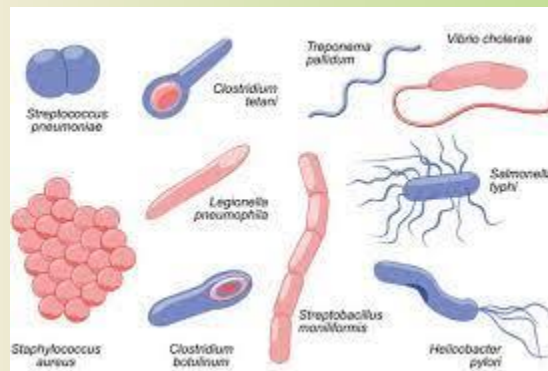
3rd Level:

- Arthropods.
- Other.



Bacteria:

- The most productive members of your compost pile's food web are the bacteria, which are chemical decomposers.
- As a group, they can eat nearly anything.
- Some are so adaptable that they can use more than a hundred different organic compounds as their source of carbon because of their ability to produce a variety of enzymes.
- Usually, they can produce the appropriate enzyme to digest whatever material they find themselves on.
- Every piece of organic matter you place in the pile is covered with varying amounts of bacteria.
- As they digest the organic material and break it down into its basic elements, they are also reproducing at an incredible rate.
- One gram of bacteria can become about 450 grams of bacteria in only three hours.



What Affects Pile Temperatures?

- Volume of pile.
- Particle size.
- Mix ratio.
- Oxygen.
- Wetness of pile.
- Dryness of pile.
- Critter's activity.



Temperature:

- Temperature plays an important role in the composting process.
 - Decomposition occurs most rapidly between 110° - 160°F.
 - Within two weeks, a properly made compost pile will reach the above temperatures.
 - A good sign that the pile is working properly is seeing the pile settle.
 - When temperature drops below 110° F and will not increase after turning.
-
- **Decision time: Do you want to add to your pile or just let it continue as is and start a new pile?**



Temperature:

- Monitoring the temperature.
- Keep the pile active at its highest level by turning whenever the pile's temperature dips below 110°F this gives you the fastest breakdown.
- This means turning the pile more often.
- The more you turn the faster the pile breaks down.



Hot Composting:

- Manages decay (130 - 140° F kills most weed seeds for a 3 day period).
- Speeds the process.
- Requires constant turning.
- The three keys to success with hot composting are:
 - Monitoring pile temperature.
 - Moisture.
 - Turning regularly.
- Takes 1 - 3 months (depending on management).

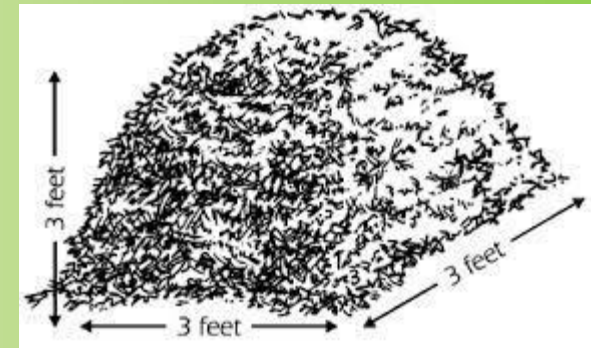


Turning Compost Piles:



Time for a Completed Pile Depends On:

- Particle size.
- Turning frequency (hot).
- Energy balance.
- Moisture (damp couple drops when squeezed).
- Air.
- Temperature (110 - 160°F).
- Pile size (3x3x3 ideal minimum).



Cold Composting:

- Simplest and most basic form of composting.
- Select an area to start a pile or put a bin.
- Layer your pile.
- Monitor to ensure it stays moist in the dry season.
- Let sit and let nature take its course.
- 6 months to a year the bottom layer of the pile should be great compost.
- Can possibly have an issue with weed seeds.



Vermiculture & Vermicomposting:

- Vermiculture is the culture of worms.
- Vermicomposting is the process by which worms are used to convert organic materials into a humus-like material.
- The processes are similar but different goals:
 1. Vermiculture keep the population low enough that reproductive rates are optimized.
 2. Vermicomposting you want maximum worms to make the most compost.



**Composting Advantages: Using castings as an amendment to soil.
Using worm tea as a plant fertilizer.**

Types of Composting

Cold Composting

This is the simplest way to compost.
It's as easy as collecting yard waste or taking out the organic materials in your trash and gathering them in a pile.

Examples of organic materials include:
orange peels - eggshells - apple cores -
vegetable trimmings - coffee grounds

The organic material decomposes
over a year.



Hot Composting

Hot composting is faster but
takes a bit more work.

You need the following 4 things:
nitrogen - carbon - air - water

Together, these items will feed
microorganisms, which speed up the
process of decay. You can get compost
within one to three months during warm
weather seasons.



Vermicompost

This kind of compost is made through
worm composting. As worms consume
your food scraps, they release castings
which are rich in nitrogen. However you
can't use any kind of worm.

**You need red worms, also known
as "red wigglers."**

These kinds of worms can be purchased
inexpensively online or at a garden center.



HOW LONG DOES IT TAKE TO DECOMPOSE

Paper Towel - 2-4 weeks

Banana Peel - 3-4 weeks

Paper Bag - 1 month

Newspaper - 1.5 months

Apple Core - 2 months

Cardboard - 2 months

Cotton Glove - 3 months

Orange peels - 6 months

Plywood - 1-3 years

Wool Sock - 1-5 years

Milk Cartons - 5 years

Cigarette Butts - 10-12 years

Leather shoes - 25-40 years

Tinned Steel Can - 50 years

Foamed Plastic Cups - 50 years

Rubber-Boot Sole - 50-80 years

Plastic containers - 50-80 years

Aluminum Can - 200-500 yrs

Plastic Bottles - 450 years

Disposable Diapers - 550 years

Monofilament Fishing Line - 600 years

Plastic Bags - 200-1000 yrs



This will create awareness amongst people that this is also one of the reasons related to Global Green House Effect. Thank you for Sharing, **CHANGE EVERYTHING**

What You Do with Finished Compost (after it rests (4 - 6 weeks)?

- Amending soil and garden:
 - Increases the availability of nutrients & microbes.
 - Helps break down clay soils.
 - Helps retain water in sandy soils.
 - Reduces soil erosion.
 - Reduces watering.
- Mulch.
- Make a soil blend for seed starting and potting plants.

It's a Win Win Solution!

*Common Questions:

How do you know when compost is done?

Answer: When you turn it and it no longer heats up above 110° F.

The initial ingredients are no longer recognizable.

Pile has decreased in size.

What is left is an earthy smelling substance similar to a rich organic soil.

Why do you let compost rest?

Answer: In general, it is best to let compost "cure" for several months even after it appears finished. During this additional time, degradation occurs at a slower rate, resulting in a more chemically stable end product.



*Common Questions:

Is newspaper safe to compost?



Are the inks toxic?

Answer: Newspaper is safe to compost, but it breaks down quite slowly because of its high lignin content. (Lignin is a substance found in the woody cell walls of plants, and it is highly resistant to decomposition).

Answer: Most newspapers today use water or soy-based inks. Although these may contain small amounts of toxic compounds, the trace levels are not of significant toxicological concern. Some caution should still be used with glossy magazines, which sometimes use heavy metal based inks to produce vivid colors.

*Common Questions:

Which kinds of pet wastes can safely be composted?



Answer: Wastes from critters such as guinea pigs, rabbits, hamsters, or gerbils can be safely composted, along with the wood or paper shavings used in their cages.



Answer: Droppings from dogs or cats should be avoided, because they may contain parasites or disease organisms harmful to humans.

*Common Questions:

Can compost harm plants?



Answer: In general, compost is good for plants -- it helps build soil structure, retains moisture, increases soil organic matter, and provides a slow release of nutrients important for plant growth.

Answer: If you use compost that has not adequately matured, however, it may cause chemical burns on plants or compete with them for use of soil nitrogen.

Common Questions:

How do you keep rodents away?



Answer: Avoid creating conditions that will attract them.

Answer: If you add meat or dairy products, or leave cooked foods such as pizza crusts lying around, you will be inviting rodents to a feast.

Answer: Composting vegetation you will minimize your chance of hosting rodents.

Answer: Adding fruit and vegetable scraps is safe as long as they are buried in the other compost ingredients and the system heats up so that the food wastes are quickly broken down.

Common Questions:

What about flies?



Answer: Fruit flies or house flies can become a problem.

Answer: If food scraps are composted, they should not be left exposed to the air.

Answer: They should be covered by a layer of brown material such as soil, old compost, leaves, or wood shavings.

Answer: In worm bins, food scraps should be buried in the bedding rather than placed on the surface.

*Common Questions:

Will it smell bad?



Answer: Compost needs enough airflow so that it remains aerobic, there may be some odor but it shouldn't be objectionable.

Answer: Foul-smelling odors, you should add more wood chips or other bulking agent, and mix the system to reaerate it.

Answer: Ammonia odors may develop if you compost materials that are high in nitrogen, such as fresh grass clippings. To prevent this, you can calculate the appropriate mixture of materials to achieve the right carbon-to-nitrogen ratio.

Common Questions:

If you use compost, do you still need fertilizer?



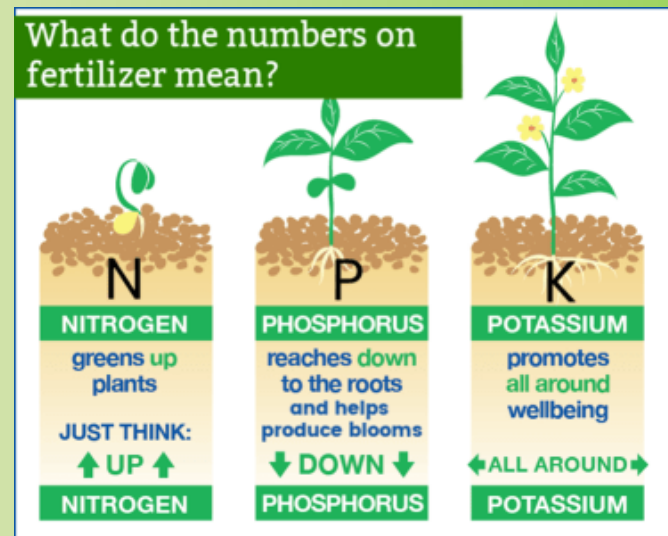
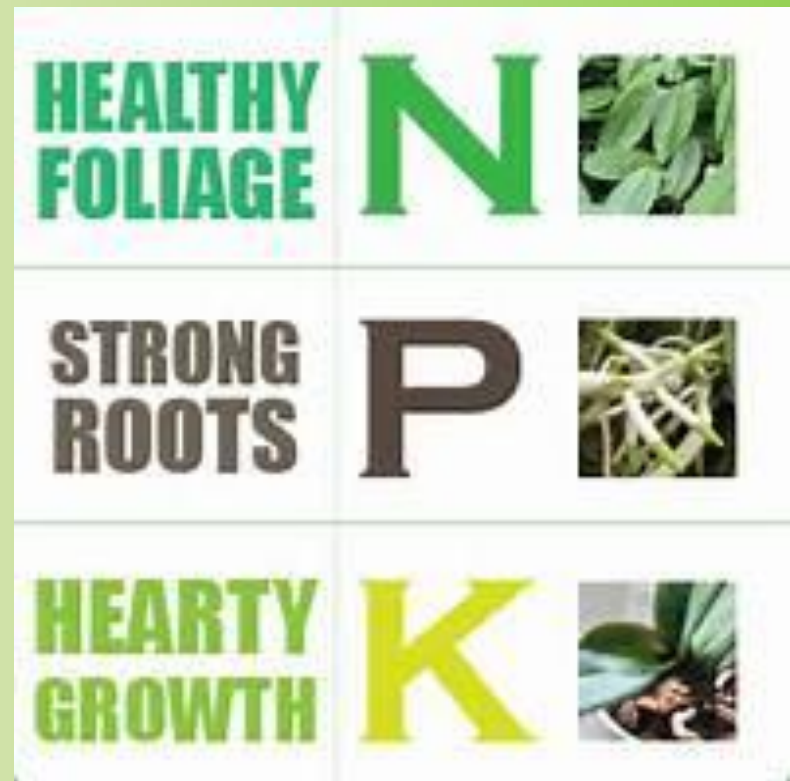
Answer: That depends on the nutrient requirements of your plants and the nutrient status of your soil.

Answer: Compost does provide needed plant nutrients, but this occurs in small doses gradually over the course of the growing season. If your soil is particularly barren, or you are growing a crop that needs a burst of nitrogen soon after planting, then you may want to supplement with other types of fertilizer.

Answer: Your best bet is to have the soil tested, then make your decision based on the test results and your intended plantings.

N-P-K: Ex. 10-10-10

- N (Nitrogen): Responsible for the growth of leaves. Be aware that high N will make quick growth and weaker plants more susceptible to attacks by diseases & pests.
- P (Phosphorus): Responsible for root growth & flower & fruit development.
- K (Potassium): Responsible for the overall functions of the plant to perform correctly.



What do the Numbers Mean?



40 lbs. 10 - 10 - 10

Element (%)	Weight	lbs.
N 10 = .10	x 40	4.0 lbs.
P 10 = .10	x 40	4.0 lbs.
K 10 = .10	x 40	<u>4.0 lbs.</u>
Totals		12.0 lbs.

What are the remaining 28.0 lbs?

Inert ingredients such as:

- Sawdust.
- Clean or sterile dirt.
- Peat moss.
- Sphagnum (moss).
- Ground corn cobs.
- Other products also serve as fillers.

Manures:

- The best way to use aged manure is by mixing with compost to prevent burning the plants due to too much N.
- Using aged manure compost in the garden is a benefit due to manure contains nutrients that plants need like N to keep healthy & green.
- Another option is to use straight manure & spreading it over the garden in the fall and tilling into the soil to break down the manure prior to planting.
- Manure enriches & conditions the soil.
- Sandy soil manure helps retain moisture and in clay or compacted soils aides in loosening.
- Produces increased carbon, reduces runoff & reduces leaching of nitrates.
- Can be used as mulch due to being a slow release fertilizer & provides nutrients over a long period of time.



Manures:

Manures: All manures release 5% N per year to the soil after 1st year until depleted!

Type	Nutrient Lvl	Digestive System	Advantages	Disadvantage	N P K
Cow	Lower than horses 10-15) 5 gal buckets/100 sq ft.	1 stomach with 4 compartments.	High avail. Releases 33% N 1 st yr.	Must age	Steer .7 - .3 - .4 Dairy .25 - .15 - .25
Alpaca/Llama	High and low in organic matter	1 stomach with 3 compartments.	Can use hot. Small pellets & breaks down quick. No weed seeds. Releases 33% N 1 st yr.	Low avail	1.7 - .69 - 1.2
Horse	High 10) 5 gal buckets/100 sq ft.	One simple stomach	High avail. Releases 33% N 1 st yr.	Can produce a lot of weeds. Must age prior to use.	.7 - .3 - .6
Pig	Lower than horses 10) 5 gal buckets/100 sq ft.	1 simple stomach	Releases 33% N 1 st yr.	Low avail	.8 - .7 - .5
Goat/Sheep	10-20) 5 gal buckets/100 sq ft.	1 stomach with 4 compartments.	High avail. Releases 33% N 1 st yr.		.7 - .3 - .9
Chicken	Highest 5-10) 5 gal buckets/100 sq ft.	Stomach (proventriculus or gizzard)	High avail	Must age prior to use in garden. Releases 75% N 1 st yr.	1.1 - .8 - .5
Rabbit	High 5) 5 gal buckets/100 sq ft.	1 simple stomach	Can use hot. Releases 33% N 1 st yr.	Low avail.	2.4 - 1.4 - .6
Worm Castings	High 10-15 lbs/100 sq ft	Stomach (gizzard)	High avail. Releases 33% N 1 st yr.		3.2 - 1.1 - 1.5

Manures from carnivorous animals should not be used due to the chance of passing on pathogens and parasites into the compost pile.

Pathogens Affecting Humans & Plants (ensure manures are aged):

Alpaca/Chicken/Cow/Goat/Horse/Llama/Rabbit/Sheep
Manures.

When using fresh manures be aware of pathogens
getting into:

- Root Crops
- Salad Crops

Avoid using:

- Hog Manure.
- Dog/Cat Feces.



Example: Calculating amount of manure usage using chicken manure:

- Each bird produces approximately 8 - 11 lbs. manure per month.
- Fresh chicken manure contains about 1.1% N along with other nutrients.
- 8 - 11 lbs. of chicken manure contains .09 - .11 lbs of N.
- Most garden crops require .25 - .33 lbs. of N per 100 sq. ft. for a growing season.
- It would take 1 bird about 10 - 12 weeks to supply enough N for a healthy garden of 100 sq. ft. for a growing season.
- Most people have more than 1 bird so you have to monitor birds how long they free range in one area.



Different Types of Commercial Bins:



\$149



\$350



\$165

Tumbler Type: Volumes vary as do prices varying from \$100 - \$350



216 gallon \$38.99



29"Wx47"H 113 gallons \$340



\$150 - \$300 size dependent



\$88 - \$199 size dependent

Stationary Type: Volumes vary as do prices varying from \$38 - \$340

DIY Compost Bins:



Green Cone Composter Solar Compost Digester!

- We have learned all the different ways to compost organic wastes with exception of meats, bones, fish, dairy and etc.
- Now we can also get rid of those into a device that will decompose them.



About the Composter:

- The Green Cone Composter is primarily constructed from recycled materials, and the digestion basket and inner solar chamber are made from 100% recycled plastic.



- The Green Cone Composter System is designed to accelerate the natural decomposition process by raising temperatures, maintaining aerobic conditions, and encouraging the growth of micro-organisms.
- The system processes almost all household food waste, including vegetable scraps, raw and cooked meat or fish, bones, dairy products and other organic food waste such as bread and pasta.

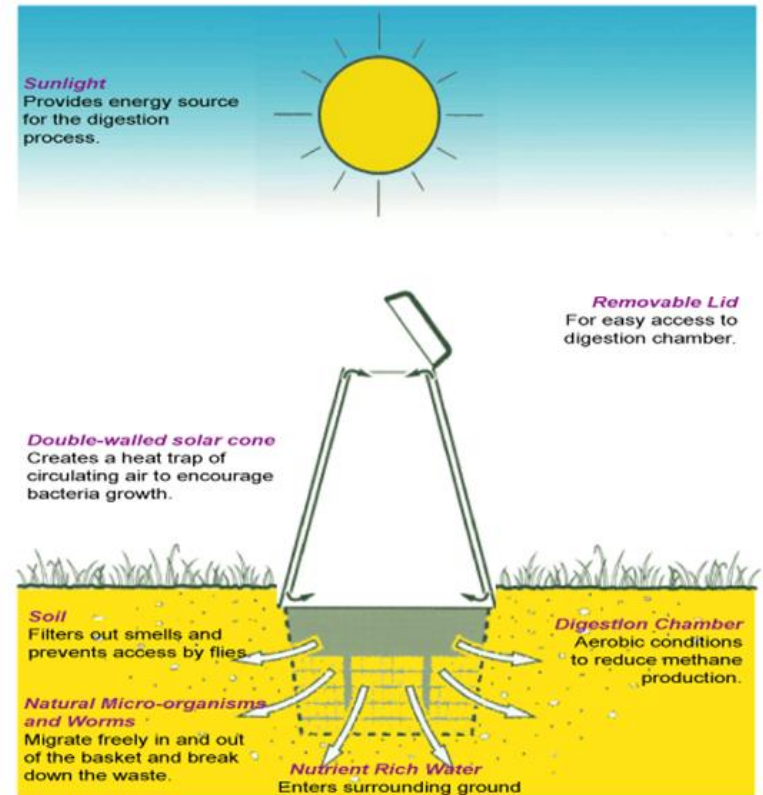
How to Install!

- Comprised of a lower basket installed below the ground, which forms the base for an above ground double-walled solar chamber with an access lid.
- Stands 26 inches above ground level and extends 18 inches below ground level.
- Access is through an 8-inch diameter hole in the top of the solar chamber, which is sealed by a hinged lid with a security catch.

How it Works:

- The Green Cone Composter System is designed to accelerate the natural decomposition process by raising temperatures, maintaining aerobic conditions, and encouraging the growth of micro-organisms.
- Reaches 122° F during hot summer months.
- The system processes almost all household food waste, including vegetable scraps, raw and cooked meat or fish, bones, dairy products and other organic food waste such as bread and pasta.

How the Green Cone Works



Over 90% of the waste material in your Green Cone will be absorbed as water by the soil.

How it Works:

- The design of the system uses solar heating in the double-walled chamber to facilitate and accelerate the aerobic decomposition process within the digestion basket. Therefore, it should be installed to obtain the maximum sunlight in your backyard.
- The Green Cone Composter will digest approximately 11 pounds of food waste a week, which is over 25% greater than that produced by the average household.
- The food waste is converted into water, carbon dioxide and a small amount residue, without the need for mixing or turning the waste.
- In a well operating system the residue will occupy the bottom 10 inches of the digestion basket after the decomposition of about a ton of food waste.
- Thus, after about five years this small quantity of residue must be removed and dug into the garden sub-soil.

What Can & Cannot Go In?

What can go into the Green Cone Composter:

- Fish, meat & poultry.
 - All bones.
 - Bread.
- Fruit including peelings.
- Vegetables including peelings.
- Dairy produce.
- Cooked food scraps.
- Crushed egg shells.
 - Tea bags.

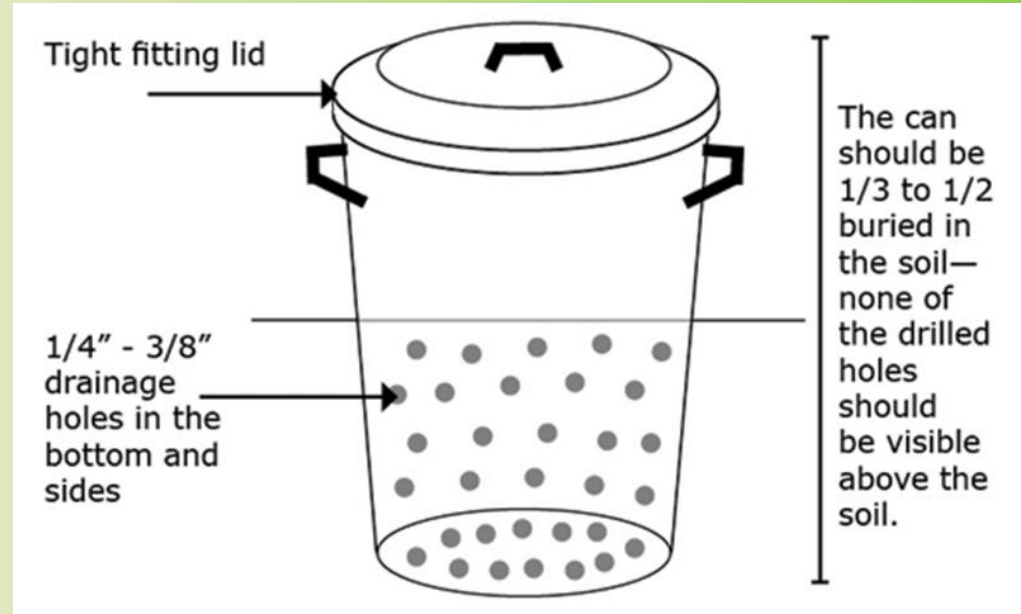
What cannot go into the Green Cone Composter:

- Metal.
- Wood.
- Plastic.
- Glass.
- Paper.
- Straw.
- Grass cuttings.
- Hedge clippings.
- Bulk oil.
- Household chemicals.

Cost:



\$210.00



\$25.00 (31 gallon galvanized can)

Bokashi:

- Bokashi composting is an anaerobic process, developed in Japan, that relies on inoculated bran to ferment kitchen waste, including meat and dairy.



\$53.95 on Amazon

DIY Bokashi Bucket:



2) 5 gal. buckets:	\$3.78 per bucket
Spigot:	4.99 Northern Brewer
<u>Bokashi inoculant:</u>	<u>14.95 Amazon</u>
Total	\$27.50



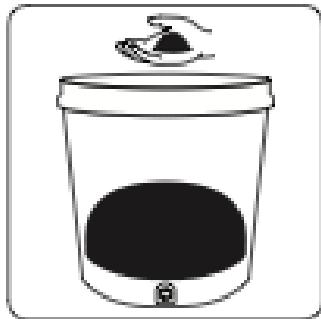
1. On the bottom of one bucket, drill 20 to 30 holes with a 1/8- to 1/4-inch drill bit.
2. Set the drilled bucket into the other bucket, in which you have not drilled holes.
3. Cover the bucket with a tight-fitting lid. Usually, you will find matching lids near the buckets in the home center.
4. Start adding your food scraps and bokashi inoculant to the bucket.



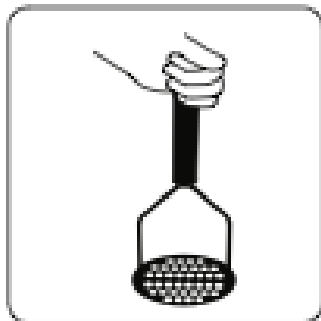
The Process:



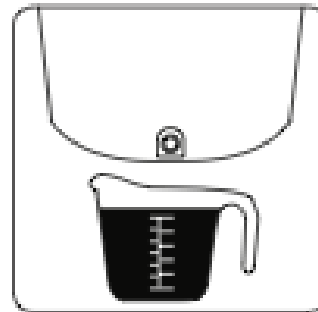
STEP 1:
Sprinkle a little Bokashi on the strainer. Add food waste. Chop/break into small pieces as this speeds up the fermentation process.



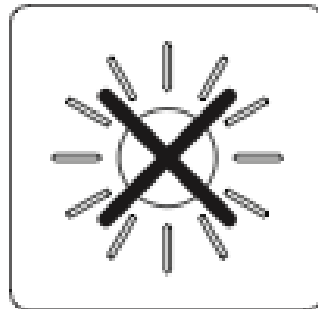
STEP 2:
Sprinkle a handful of Bokashi over each layer of food waste. Add more Bokashi if adding naturally smelly foods such as onions, fish and meat.



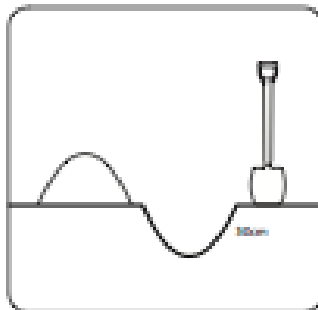
STEP 3:
Press out the air with a masher and seal the lid tight (the less you open your digester the better).



STEP 4:
During fermentation tap off the Bokashi liquid and use as plant food. Dilute 1:300, or pour undiluted down your drains to eliminate odours and keep sludge free.



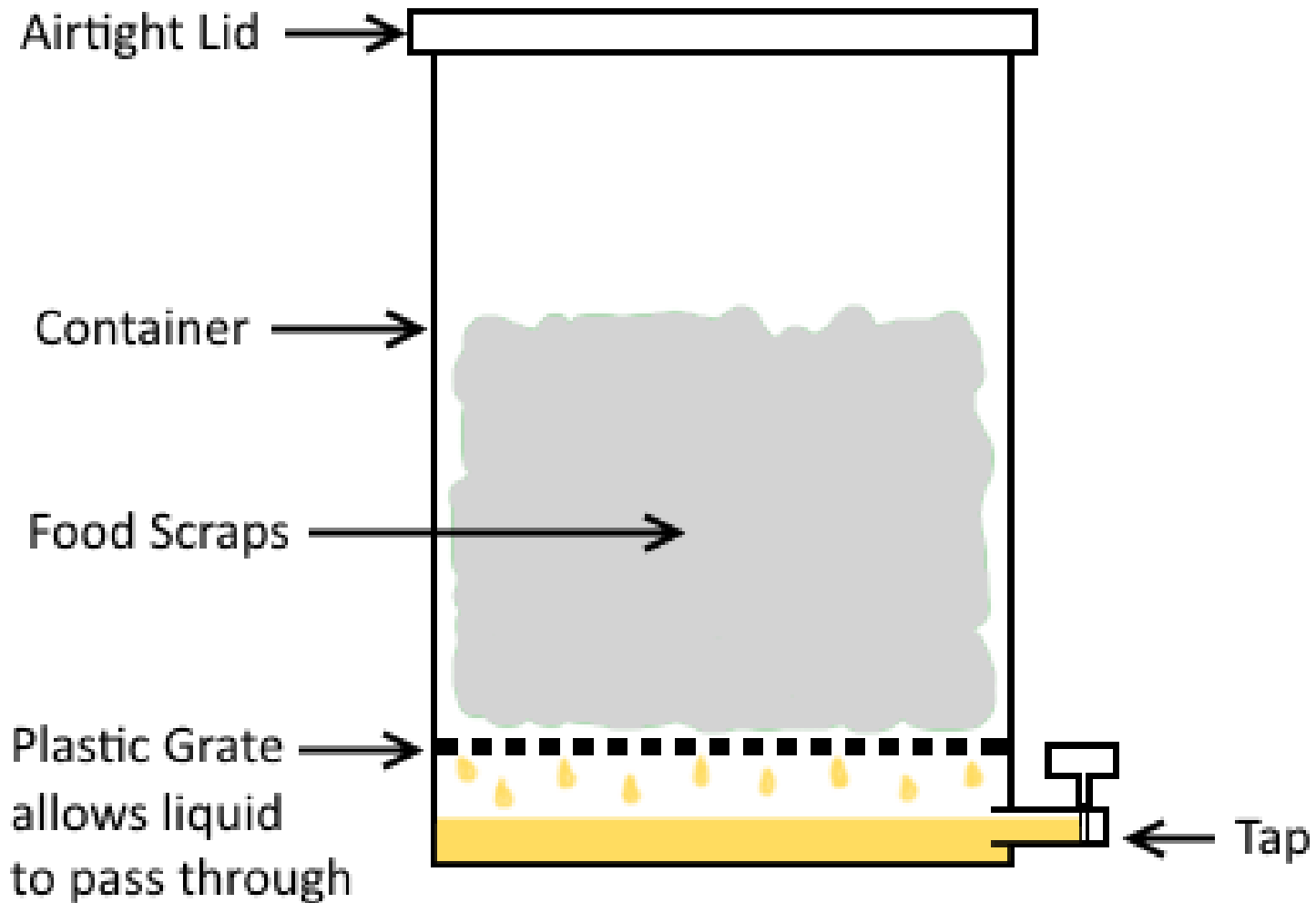
STEP 5:
When full seal, tap off liquid and leave out of sunlight. Ferment for an additional two weeks.



STEP 6:
After fermentation place in the middle of your compost heap, or bury under 30cm of soil. Wait for 4-6 weeks and then add to your garden beds. Compost is ready when it has turned black and food waste is no longer visible.

The Process:

BOKASHI COMPOSTING BIN



Claimed Pros:

- The method allows for the use of dairy and meat scraps that are not incorporated in other forms of composting.
- Bokashi composting can be done in a relatively small space since it does not require materials to be fluffed up with air.
- Anerobic process.



Claimed Cons:

- The material produced is a fermented product, not a traditional compost that can be surface applied to a garden as a mulch or soil amendment.
- The fermented product can either be buried in trenches in the garden (not touching plant roots) or added to a traditional compost heap for further breakdown (approximately another month).
- The process requires a special airtight bucket or bin with the ability to drain off the liquid that is produced.
- The product is still so acidic that plant roots should not come in contact with it for two to four weeks.



Advanced Composting Topics:

- Why Compost?
- What is Compost?
- Facts.
- Elements.
- Mix ratio.
- Beware.
- Organism Levels.
- Temperature.
- Hot Composting.
- Cold Composting.
- Vermicomposting.
- Decomposition.
- Common Questions.
- Fertilization.
- Manures.
- Green Cone.
- Bokashi.



Resources:

- Master Gardener Training Manual:
- Master Recycler Composter Training Manual:

https://static1.squarespace.com/static/5530230ae4b0dac9d1968694/t/5df198ce3667f078aa40ef9c/1576114390018/master-recyclers_handbook_all_Dec_2019.pdf

Books:

- The Recyclers Handbook: <https://p2infohouse.org/ref/33/32035.pdf>

Fact Sheets & Bulletins:

- WSU - FS160E Fact Sheet Using Arborist Wood Chips as Landscape Mulch: <https://research.libraries.wsu.edu/xmlui/bitstream/handle/2376/5262/FS160E.pdf?sequence=2>
- WSU - EM063E A Home Gardener's Guide to Soils & Fertilizers: <https://pubs.extension.wsu.edu/a-home-gardeners-guide-to-soils-and-fertilizers-home-garden-series>
- WSU - EB1784E Backyard Composting: https://wmswcd.org/wp-content/uploads/2015/12/Backyard_Composting.pdf
- Oregon State University - Compost in the Backyard: <https://bernalilloextension.nmsu.edu/mastercomposter/bokashi.html>
 - Clemson Cooperative Extension C 1600 - Composting: <https://hgic.clemson.edu/factsheet/composting/>
 - University of Missouri - Making and Using Compost: <https://extension.missouri.edu/g6956>
 - New Mexico State University - Bucket Composting with Bokashi: <https://bernalilloextension.nmsu.edu/mastercomposter/bokashi.html>
 - Green Solar Cone Digester: <http://www.greenconeusa.com/green-cone-solar-food-waste-digester.html>

Websites:

- Backyard Composting & Food Waste:

<http://www.seattle.gov/util/EnvironmentConservation/MyLawnGarden/CompostSoil/Composting/FoodWaste/index.htm>

Advanced Composting:

Presented by the WSU Extension of Cowlitz County Master Gardner Program.

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